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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/722,758 | 11/26/2003 | Masaki Tamaru | 32811US1 | 7196 |
| 116 | 7590 | 05/03/2005 | EXAMINER | |
| PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108 | | | VU, HUNG K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2811 | |

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,758

Applicant(s)

TAMARU ET AL.

Examiner

Hung Vu

Art Unit

2811



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/616,086.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/26/03, 03/02/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Invention of Embodiment I, claims 1-5 in the reply filed on 03/02/05 is acknowledged.
2. However, claim 5 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03/02/05.

Claim Objections

3. Claim 1 is objected to because of the following informalities:

In claim 1, line 2, "of" should be changed to "on" for clarity.

In claim 1, line 14, after "first through" insert --hole-- for clarity.

In claim 1, line 17, after "second through" insert --hole-- for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kariyazono et al. (PN 5,525,544).

Kariyazono et al. discloses, as shown in Figures 1-9, a semiconductor device comprising:

- a first conductive layer (lower portion of 91) formed on a surface of a substrate (1);
- a second conductive layer (lower portion of 92) which is formed close to the first conductive layer and which is electrically isolated from the first conductive layer through an insulating layer (7),

- wherein the first conductive layer is filled in a first through hole (71) which is formed to pass through at least a part of the insulating layer,

- the second conductive layer is filled in a second through hole (72) which is formed to pass through at least a part of the insulating layer,

- a cross section of the first through hole is rectangular, in which the first through hole has a wider surface which is confronted with the second through hole, and

- a cross section of the second through hole is rectangular, in which the first through hole has a wider surface which is confronted with the second through hole.

Regarding claim 2, Kariyazono et al. discloses a load capacitance (coupling capacitance) is produced between the first conductive layer and the second conductive layer in a direction of thickness of the first and second conductive layers.

Art Unit: 2811

Regarding claim 3, Kariyazono et al. discloses a top surface of the first conductive layer is couple to a first metallic wiring (upper portion of 91), and the second conductive layer is couple to a second metallic wiring (upper portion of 92).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kariyazono et al. (PN 5,525,544) in view of Reference K (JP7-161932, of record).

Kariyazono et al. discloses the claimed invention including the semiconductor device as explained in the rejection above. Kariyazono et al. further discloses the first wiring is connected with a first power source, Kariyazono et al. does not disclose the second metallic wiring is connected with a second power source. However, Reference K discloses a semiconductor device comprising a first wiring is connected with a first power source and a second metallic wiring is connected with a second power source. Note Figures 1-5. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the second metallic wiring of Kariyazono et al. connecting with a second power source, such as taught by Reference K in order to perform the desired operation or to have a desired capacitance.

Art Unit: 2811

Conclusion

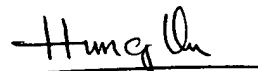
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

April 29, 2005

A handwritten signature in black ink, appearing to read "Hung Vu", is written over a horizontal line.

Hung Vu

Primary Examiner